

Cruise ships would be allowed to go into the West Arm, into Tarr Inlet, and up to Jaw Point in Johns Hopkins Inlet. In addition to the closed waters defined in current regulations, cruise ships also would not be allowed in Beardslee Entrance or the East Arm (defined by a line drawn from southern Seabee Island to the mainland) in Glacier Bay or in Dundas Bay.

Tour vessels would not be allowed in Beardslee Entrance, Muir Inlet (defined by a line from Muir Point to the mainland), Berg Bay, or Fingers Bay in Glacier Bay or in Dundas Bay.

Johns Hopkins Inlet Seasonal Closure. Under alternative 4, motorized vessels would be required to maintain a 0.25 nautical mile distance from seals hauled out on ice in Johns Hopkins Inlet on a year-round basis.

## **MEASURES TO MINIMIZE HARM**

Many of the operating requirements considered in the EIS are, in fact, measures that minimize harm. The 1996 decision to increase vessel numbers also included many measures to reduce or avoid effects on the resources and values of Glacier Bay. These are defined in the form of vessel operating requirements and are in regulations (36 CFR 13.65), which will continue to be in effect.

Some measures to protect park resources and values included in the current regulations are as follows:

- Non-motorized waters allow backcountry visitors to experience areas of the park without the presence of motorized vessels.
- Regulations protecting vessel speed and approach to humpback whales mitigate potential disturbance to whales, allowing these species enhanced opportunities to forage and travel than would be the case without the regulations.
- The superintendent may designate temporary whale waters and impose motor vessel speed restrictions in whale waters, which provides protection to this endangered species.
- Islands and rocks with nesting seabirds that are closed to close vessel approaches on a year-round basis provide protection of marine bird nesting habitat from vessels and visitors.
- Steller sea lion and harbor seal haul-outs that are closed to close vessel approaches on a year-round and seasonal basis provide protection to the Steller sea lion and harbor seal populations from vessel and visitor disturbance.

Other measures currently in place that also contribute to environmental protection are included in cruise ship concession permits. For example, cruise ship operators submit a pollution minimization plan that documents how each operator implements the industry's Best Management Practices to minimize pollution to air and water and prevent discharges of fuel or other undesirable substances. This has resulted in cruise ship operators submitting pollution minimization plans that incorporate a zero discharge policy for graywater or blackwater. Cruise ship operators also may include in their plan a provision to turn off incinerators while in the park, which eliminates a source of air pollution. If operators discharge fuel or wastewater, the park can take action through criminal or administrative procedures, depending on the severity of the spill or discharge, the appropriateness of the operator's response, and/or cooperation with the park and other agencies.

Environmental practices also are taken into consideration during the evaluation of proposals for tour and charter operators during the concession prospectus process.

Glacier Bay National Park and Preserve will continue to manage vessel quotas and operating requirements through public outreach efforts, educational materials, and ranger patrols in Glacier Bay. Vessel activity in Dundas Bay will be monitored, as necessary, to ensure protection of park resources and values, to better understand use, and to address management and safety considerations. Private vessel operators will still be required to obtain their vessel permits from the Visitor Information Station in Bartlett Cove when they first enter Glacier Bay, where they will also be required to participate in a vessel operator orientation.

The marine vessel emissions program will continue to be used to observe, report, and enforce opacity requirements, in accordance with existing authorities.

Lack of compliance with requirements can be addressed through administrative and/or criminal procedures.

## STUDIES AND MONITORING

The 1996 vessel management plan resulted in a research program that identified numerous information and management needs associated with determining appropriate levels of vessel traffic and designing mitigation measures to protect resources in Glacier Bay. A number of the studies identified in the 1996 vessel management plan have been accomplished, and information from those studies is included in the EIS. These include, but are not limited to, studies identified in table 4.

**TABLE 4: SUMMARY OF STUDIES FOR GLACIER BAY**

<b>Study</b>	<b>Status</b>
Impacts of vessel disturbances on Steller sea lions	Completed in 2000
Disturbance of harbor seals by motorized vessels in Johns Hopkins Inlet	Completed in 2001
Development of coastal monitoring protocols and process-based studies	Completed in 2001
Mapping the benthic habitat in Glacier Bay, Alaska	Partially completed in 2001
Pilot study on humpback whale foraging	Completed in 2002
Underwater ecology of selected marine communities in Glacier Bay	Completed in 2003
Distribution and abundance of small schooling fish	Completed in 2003
Monitoring underwater noise in Glacier Bay National Park	Ongoing
Disturbance of harbor seals at a terrestrial haul-out in Glacier Bay National Park	Ongoing
Population characteristics of humpback whales in Glacier Bay and adjacent waters	Ongoing
Opportunistic sightings of marine mammals in Glacier Bay National Park	Ongoing
Humpback whale vocalizations in Glacier Bay: their frequency and occurrence	Ongoing
Coastal resources inventory and mapping project	Ongoing
Marine predator distribution in Glacier Bay National Park	Ongoing
Fjord oceanographic processes in Glacier Bay, Alaska	Ongoing

Topics for continuing or future studies and monitoring are:

- *Vessel Noise*: Additional information regarding surface and subsurface vessel noise levels, including studies evaluating underwater sound produced by cruise ships traveling at high speeds, will provide a better understanding of the effects of vessel noise on marine mammals and other biota.